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10/599,630	10/04/2006	Mark Jozef Willem Mertens	NL 040391	2046

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EXAMINER

KURR, JASON RICHARD

ART UNIT	PAPER NUMBER
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2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,630	MERTENS, MARK JOZEF WILLEM	
	Examiner	Art Unit	
	JASON R. KURR	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-19 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-19 and 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/10/07 11/8/07</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Objections

Claim 16 is objected to because of the following informalities:

Claim 16 recites the limitation "the device" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-7, 10-11, 19, 23 and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (US 5,054,077).

With respect to claim 1, Suzuki discloses a device (fig. 1) for controlling the sound levels of a group of audio channels (fig.1 "CH1-CH3...") comprising a main channel and at least one auxiliary channel which can be rendered simultaneously, the device comprising: user controlled selection means (fig.1 #31-33) for selecting the main channel, and automatic level adjustment means (fig.1 #52) for adjusting the sound level of the at least one auxiliary channel relative to the main channel (col.3 ln.20-25). It is the Examiner's position that any one of channels CH1-3... may be considered as the

main channel or the auxiliary channel depending on the current selection/position of faders 31-33. For example, figure 1 depicts CH1 at -20dB, CH2 at -30dB, and CH3 at -40dB, hence CH1 would be considered as the main channel and CH2-3 are auxiliary channels.

With respect to claim 2, Suzuki discloses the device according to claim 1, wherein the selection means are arranged for selecting successive available channels in response to user input (fig.1). It is clear that CH1-3 are successive and are controlled by a user input (i.e. manually adjusting faders #31-33).

With respect to claim 5, Suzuki discloses the device according to claim 1, wherein the level adjustment means (fig.1 #52) are arranged for adapting the respective sound levels to the content of each associated audio channel (col.3 ln.20-25). It is clear that the level adjustment means #52 adapts the levels of the auxiliary channels (CH2-3) in response to the content of the audio channel (i.e. position of the faders #32-33).

With respect to claim 6, Suzuki discloses the device according to claim 5, further arranged for adapting the respective sound levels to user preferences regarding the content (col.3 ln.4-25).

With respect to claim 7, Suzuki discloses the device according to claim 1, wherein the level adjustment means (fig.1 #52) are arranged for adapting the respective sound levels to the signal characteristics of each associated audio channel (col.3 ln.20-25). The Examiner has interpreted the fader position as a signal characteristic of each audio channel.

With respect to claim 10, Suzuki discloses the device according to claim 5, wherein the level adjustment means (fig.1 #52) are arranged for temporarily adjusting the sound level of a channel in response to the content and/or signal characteristics of at least one channel (col.3 ln.20-25). The Examiner has interpreted the fader position as a signal characteristic of each audio channel.

With respect to claim 11, Suzuki discloses the device according to claim 1, wherein the level adjustment means are arranged for gradually adjusting the sound level. The faders of Suzuki may be operated in a gradual or rapid manner depending on the desire of the user.

With respect to claim 19, Suzuki discloses the device according to claim 1, wherein said device is included in at least one of an audio system, a home entertainment system, and a television system (col.1 ln.5-10).

With respect to claim 23, Suzuki discloses a method of controlling the sound levels of a group of audio channels (fig.1 "CH1-CH3...") having a main channel and at least one auxiliary channel which can be rendered simultaneously, the method comprising: selecting, under user control, the main channel, and automatically adjusting the sound level of the at least one auxiliary channel relative to the main channel (col.3 ln.4-20).). It is the Examiner's position that any one of channels CH1-3... may be considered as the main channel or the auxiliary channel depending on the current selection/position of faders 31-33. For example, figure 1 depicts CH1 at -20dB, CH2 at -30dB, and CH3 at -40dB, hence CH1 would be considered as the main channel and CH2-3 are auxiliary channels.

With respect to claim 25, Suzuki discloses the method according to claim 23, wherein the respective sound levels of the at least one auxiliary channel are adapted to the content of each associated audio channel (col.3 ln.20-25). It is clear that the level adjustment means #52 adapts the levels of the auxiliary channels (CH2-3) in response to the content of the audio channel (i.e. position of the faders #32-33).

With respect to claim 26, Suzuki discloses the method according to claim 23, wherein the respective sound levels of the at least one auxiliary channel are adapted to the signal characteristics of each associated audio channel (col.3 ln.20-25). The Examiner has interpreted the fader position as a signal characteristic of each audio channel.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 16-18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 5,054,077) in view of Weber (US 6,396,549 B1).

With respect to claim 3, Suzuki discloses the device according to claim 1, however does not disclose expressly wherein the level adjustment means are arranged for providing pre-set relative sound levels.

Weber discloses a device for controlling the sound level of an audio channel wherein the volume of the channel is pre-set to a "normal" level (col.5 ln.42-67, col.6 ln.1-11). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the pre-set normal level of Weber in the level adjustment means of Suzuki. The motivation for doing so would have been to reproduce the audio signal of a given channel at a level desired by the user in situations when the device is first turned on or when the channel is un-muted. This would prevent undesirable loud signal levels from being reproduced when the device begins play audio content of the channels.

With respect to claim 4, Suzuki discloses the device according to claim 3, further arranged for altering the pre-set relative sound levels by the user (Weber: col.5 ln.66-67).

With respect to claim 16, Suzuki discloses a device (fig.1) for controlling the sound levels of a group of audio channels (fig.1 "CH1-CH3...") having a main channel and at least one auxiliary channel which can be rendered simultaneously, the device including user controlled selection means (fig.1 #31-33) for selecting the main channel, and automatic level adjustment means (fig.1 #52) for adjusting the sound level of the at least one auxiliary channel relative to the main channel (col.3 ln.20-25). It is the Examiner's position that any one of channels CH1-3... may be considered as the main channel or the auxiliary channel depending on the current selection/position of faders 31-33. For example, figure 1 depicts CH1 at -20dB, CH2 at -30dB, and CH3 at -40dB, hence CH1 would be considered as the main channel and CH2-3 are auxiliary channels.

Suzuki does not disclose expressly wherein the device is used with a remote control device.

Weber discloses a remote control unit (fig.1 #1) to be used with a volume control device (fig.1 #2) comprising selection interface components (fig.1 #5) for selecting a main channel (col.9 ln.52-59). At the time of the invention it would have been obvious to a person of ordinary skill in the art use the remote control unit of Weber to control the channels of Suzuki. The motivation for doing so would have been to allow a user to control the invention of Suzuki from a distant position.

With respect to claim 17, Suzuki discloses the remote control unit according to claim 16, further comprising a first sound level interface component (fig.1 #40) for setting a ratio of sound levels of rendered channels (col.4 ln.24-33).

With respect to claim 18, Suzuki discloses the remote control unit according to claim 16, further comprising second sound level interface components (fig.1 #40) for manually adjusting the sound levels of rendered channels (col.4 ln.24-33).

With respect to claim 24, Suzuki discloses the method according to claim 23, however does not disclose expressly wherein the sound level of the at least one auxiliary channel is set using a plurality of pre-set relative sound levels.

Weber discloses a device for controlling the sound level of an audio channel wherein the volume of the channel is pre-set to a "normal" level (col.5 ln.42-67, col.6 ln.1-11). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the pre-set normal level of Weber in the level adjustment means of Suzuki. The motivation for doing so would have been to reproduce the audio signal of a

given channel at a level desired by the user in situations when the device is first turned on or when the channel is un-muted. This would prevent undesirable loud signal levels from being reproduced when the device begins play audio content of the channels.

Claims 8-9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 5,054,077) in view of Sato et al (US 5,048,091).

With respect to claim 8, Suzuki discloses the device according to claim 7, however does not disclose expressly wherein the level adjustment means are arranged for speech detection.

Sato discloses a level adjustment means (fig.1 "A,B") arranged for speech detection and speech level control (col.3 ln.9-17). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the speech detection and level control means of Sato in the level adjustment means of Suzuki. The motivation for doing so would have been to reproduce speech content of each channel so as the speech is not drowned out by other audio signals, such as background music.

With respect to claim 9, Suzuki discloses the device according to claim 8, wherein the level adjustment means are further arranged for speech analysis (col.3 ln.13-17).

With respect to claim 27, Suzuki discloses the method according to claim 25, however does not disclose expressly wherein speech detection is used.

Sato discloses a level adjustment means (fig.1 "A,B") arranged for speech detection and speech level control (col.3 ln.9-17). At the time of the invention it would

have been obvious to a person of ordinary skill in the art to use the speech detection and level control means of Sato in the level adjustment means of Suzuki. The motivation for doing so would have been to reproduce speech content of each channel so as the speech is not drowned out by other audio signals, such as background music.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 5,054,077) in view of Niimi (US 6,084,974).

With respect to claim 12, Suzuki discloses the device according to claim 1, however does not disclose expressly wherein the level adjustment means are arranged for clipping, compressing and/or filtering audio signals contained in the channels.

Niimi discloses that level adjustment means that are arranged for clipping, compressing and/or filtering audio signals contained in the channels are well known in the art (col.1 ln.18-40). At the time of the invention it would have been obvious to a person of ordinary skill in the art to compress signal levels in the adjustment means of Suzuki that are of a high signal level. The motivation for doing so would have been to prevent clipping of the reproduced audio signal.

Claims 13, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 5,054,077) in view of Kaneko et al (US 4,464,781).

With respect to claim 13, Suzuki discloses the device according to claim 1, however does not disclose expressly wherein the main channel and the at least one auxiliary channel are rendered by different transducers.

Kaneko discloses a multi-channel level adjustment device wherein each channel (fig.1 "Left, Right Channel") are rendered by different transducers (fig.1 #12R,L, 15R,L). At the time of the invention it would have been obvious to a person of ordinary skill in the art to output each channel of Suzuki to different loudspeakers as performed by Kaneko. The motivation for doing so would have been to accurately reproduce the audio signals according to the position of the sound source. For example, sound of a right channel should be reproduced on the right side of a listener.

With respect to claim 14, Suzuki discloses the device of claim 13, further provided with transducer selecting means (Kaneko: fig.1 #16L,R) for selecting a transducer which renders the main channel and/or the at least one auxiliary channel (Kaneko: col.3 ln.7-9).

With respect to claim 22, Suzuki discloses the system according to claim 19, however does not disclose expressly wherein the main channel is rendered by a transducer which is located centrally relative to the system.

Kaneko discloses a level adjustment device wherein each channel (fig.1 "Left, Right Channel") are rendered by different transducers (fig.1 #12R,L, 15R,L). At the time of the invention it would have been obvious to a person of ordinary skill in the art to output at least one channel of Suzuki to a loudspeaker as performed by Kaneko. The motivation for doing so would have been to reproduce the audio signals for enjoyment by a user.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 5,054,077) in view of Sato et al (US 5,048,091) and in further view of Webster et al (US 5,430,826).

With respect to claim 28, Suzuki discloses the method according to claim 27 in view of Sato, however does not disclose expressly wherein at least one of formant detection, prosody detection and keyword detection is used.

Webster discloses a speech detection system utilizing formant detection (See: Abstract, col.1 ln.10-25). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the voice-activated switch of Webster to determine periods of voice activity for the volume control of Suzuki and Sato. The motivation for doing so would have been to control only the speech portions of audio signal relative to additional audio information carried by the audio channels. This would prevent unwanted amplification of background sounds in the presence of speech.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tajima (US 5,222,150) discloses a volume control circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON R. KURR whose telephone number is (571)272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/
Primary Examiner, Art Unit 2614

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